LITHOGRAPHY TOOL IMAGE QUALITY EVALUATING AND CORRECTING

Abstract

Electron beam lithography tool image quality evaluating and correcting including a test pattern with a repeated test pattern cell, an evaluation method and correction program product are disclosed. The test pattern cell includes a set of at least three elongated spaces with each elongated space having a different width than other elongated spaces in the set such that evaluation of a number of space widths in terms of tool image quality and calibration can be completed. The evaluation method implements the test pattern cell in a test pattern in at least thirteen sub-field test positions across an exposure field, which provides improved focus and astigmatism corrections for the lithography tool. The program product implements the use of corrections from the at least thirteen sub-field test positions to provide improved corrections for any selected sub-field position.